

## PATENT COOPERATION TREATY

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## INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference 10064	<b>FOR FURTHER ACTION</b>	
See Form PCT/IPEA/416		
International application No. PCT/GB2004/003353	International filing date (day/month/year) 04.08.2004	Priority date (day/month/year) 22.08.2003
International Patent Classification (IPC) or national classification and IPC C08F4/02, C08F10/00, C08F210/16		
Applicant BP CHEMICALS LIMITED et al.		
<p>1. This report is the International preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.</p> <p>2. This REPORT consists of a total of 5 sheets, including this cover sheet.</p> <p>3. This report is also accompanied by ANNEXES, comprising:</p> <ul style="list-style-type: none"> <li>a. <input type="checkbox"/> <i>(sent to the applicant and to the International Bureau)</i> a total of sheets, as follows:           <ul style="list-style-type: none"> <li><input type="checkbox"/> sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).</li> <li><input type="checkbox"/> sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.</li> </ul> </li> <li>b. <input type="checkbox"/> <i>(sent to the International Bureau only)</i> a total of (indicate type and number of electronic carrier(s)) , containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).</li> </ul>		
<p>4. This report contains indications relating to the following items:</p> <ul style="list-style-type: none"> <li><input checked="" type="checkbox"/> Box No. I Basis of the opinion</li> <li><input type="checkbox"/> Box No. II Priority</li> <li><input type="checkbox"/> Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability</li> <li><input type="checkbox"/> Box No. IV Lack of unity of invention</li> <li><input checked="" type="checkbox"/> Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement</li> <li><input type="checkbox"/> Box No. VI Certain documents cited</li> <li><input type="checkbox"/> Box No. VII Certain defects in the international application</li> <li><input type="checkbox"/> Box No. VIII Certain observations on the international application</li> </ul>		
Date of submission of the demand 10.03.2005	Date of completion of this report 11.08.2005	
Name and mailing address of the international preliminary examining authority:  European Patent Office D-80298 Munich Tel. +49 89 2399 - 0 Tx: 523656 epmu d Fax: +49 89 2399 - 4465	Authorized Officer  Thomas, D  Telephone No. +49 89 2399-	



## **INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY**

International application No.  
PCT/GB2004/003353

### **Box No. I Basis of the report**

- With regard to the **language**, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.
  - This report is based on translations from the original language into the following language, which is the language of a translation furnished for the purposes of:
    - international search (under Rules 12.3 and 23.1(b))
    - publication of the international application (under Rule 12.4)
    - international preliminary examination (under Rules 55.2 and/or 55.3)
- With regard to the **elements\*** of the international application, this report is based on (*replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report*):

**Description, Pages**

1-17 as originally filed

## **Claims, Numbers**

1-16 as originally filed

a sequence listing and/or any related table(s) - see Supplemental Box Relating to Sequence Listing

3.  The amendments have resulted in the cancellation of:  
 the description, pages  
 the claims, Nos.  
 the drawings, sheets/figs  
 the sequence listing (*specify*):  
 any table(s) related to sequence listing (*specify*):

4.  This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).  
 the description, pages  
 the claims, Nos.  
 the drawings, sheets/figs  
 the sequence listing (*specify*):  
 any table(s) related to sequence listing (*specify*):

\* If item 4 applies, some or all of these sheets may be marked "superseded."

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**Box No. V Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement**

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**1. Statement**

Novelty (N)	Yes:	Claims	
	No:	Claims	1-18
Inventive step (IS)	Yes:	Claims	
	No:	Claims	1-18
Industrial applicability (IA)	Yes:	Claims	1-18
	No:	Claims	

**2. Citations and explanations (Rule 70.7):**

**see separate sheet**

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(SEPARATE SHEET)**

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**Re Item V.**

**1 The following documents are referred to in this communication:**

D1 : EP 0 924 226 A (TARGOR GMBH) 23 June 1999 (1999-06-23)  
D2 : US 5 332 706 A (SHIRODKAR PRADEEP P ET AL) 26 July 1994 (1994-07-26)  
D3 : WO 96/34020 A (EXXON CHEMICAL PATENTS INC) 31 October 1996 (1996-10-31)  
D4 : KAMFJORD T ET AL: "Supported metallocene catalysts prepared by impregnation of MAO-modified silica by a metallocene /monomer solution" MACROMOLECULAR: RAPID COMMUNICATIONS, WILEY VCH, WEINHEIM, DE, vol. 19, 1998, pages 505-509, XP002222295 ISSN: 1022-1336  
D5 : US 6 291 611 B1 (PALMQVIST ULF ET AL) 18 September 2001 (2001-09-18)  
D6 : WO 98/45337 A (PEIL KELVIN P ; DOW CHEMICAL CO (US); WILSON DAVID R (US)) 15 October 1998 (1998-10-15)

**2 Novelty**

2.1 The present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claim 1 is not new in the sense of Article 33(2) PCT. Document D3 discloses (the references in parenthesis applying to this document): problem: 1) in example 3 (page 17) the preparation of a supported metallocene. The supported polymerization catalyst system comprises:  
a porous support (Silica Davison 948)  
a polymerization catalyst (bis(1,3-methyl-n-butylcyclopentadienyl)zirconium dichloride)  
a cocatalyst (MAO)  
and an inert material (Multiwax 195 M);  
As a consequence, the subject-matter of claims 1-10,12,13,16-18 is not novel towards D3.

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2.2 The subject matter of D1, D2, D4-D6 is regarded to be relevant for the question of novelty as well.(The relevant passages are cited in the International search report).

**3 Sufficiency of disclosure**

The example of the present application discloses a preparation method of a supported metallocene complex. In a first step a ionic compound, a metallocene complex and an activator is supported on silica. In a second step (example 3), the supported catalyst system is contacted with polyisobuene (inert material). The application is missing an example where the porous support is treated with the inert material prior to the contact with the other materials (see Guidelines 4.12).